Suntop Lookout
Forest Road 510, Mt. Baker-Snoqualmie
National Forest
Greenwater Vicinity
Pierce County
Washington

HABS No. WA-190

HABS
WASH,
27-GREWAY,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Western Region
Department of Interior
San Francisco, California 94102

HABS
WASH,
27-GREWA.V,
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HISTORIC AMERICAN BUILDINGS SURVEY
SUNTOP LOOKOUT HABS No. WA-190

Location: End of Forest Road 510, Mt. Baker-Snoqualmie National Forest
Greenwater Vicinity
Pierce County
Washington

U.S.G.S. Greenwater Quadrangle (15')
Universal Transverse Mercator Coordinates:
10.606850.5210495

Present Owner: Mt. Baker-Snoqualmie National Forest
1022 First Avenue
Seattle, Washington 98104

Present Occupant: Same

Present Use: Recreation site

Significance: Suntop Lookout is an element of a National Register thematic group, "USDA Forest Service Fire Lookouts on the Mt. Baker-Snoqualmie National Forest." This group of eight lookouts is associated with the historical development of the Forest Service, as a component of a comprehensive forest fire detection system which protected forest resources for over 25 years. The establishment of a network of elevated lookout stations between 1915 and 1940 significantly increased the area of forest which could be routinely observed for signs of fire, and speeded the dispatch of suppression forces.

Lookouts in the thematic group also embody the distinctive characteristics of a building type designed for and constructed in challenging mountain environments. Suntop Lookout is an example of the 1932 revision of the Pacific Northwest Region L-4 lookout plan. It is one of five in the thematic group constructed according to this plan. The plan featured short pre-cut structural elements, to facilitate transport by pack string, and uniform millwork and finish materials, to facilitate construction by crews of variable ability.

Suntop is also one of three lookouts in the thematic group utilized by the World War II-era Army Aircraft Warning Service and is thus associated with the war effort. The Aircraft Warning Service staffed lookouts around the clock, 365 days a year, posing challenges to the logistical and communications systems of the Forest Service.

PART I. HISTORICAL INFORMATION

A. Physical History

1. **Date of erection:** Between 1928 and 1933 (McCullough 1970: 78). A 1934 photograph series (photos 25-27) was taken from the roof of the completed structure. A storage shed and toilet are also shown in these photos (photo 25). The shed remains, and was likely constructed at the same time as the Lookout, notwithstanding statements in the National Register nomination (USDA Forest Service, Mt. Baker-Snoqualmie N. F. 1986: Item 7) that it is a later structure.

2. **Architect:** K. E. Banks; USDA Forest Service, Pacific Northwest Region.

3. **Original and subsequent owners:** The lookout has been the property of the USDA, Forest Service, since its construction (USDA Forest Service, Mt. Baker-Snoqualmie N. F. Lands files). When constructed, it was located within the Snoqualmie National Forest. The Snoqualmie National Forest was merged with the Mt. Baker National Forest to form the Mt. Baker-Snoqualmie in 1974.

4. **Builder, contractor, supplier:** Not known.

5. **Original plans and construction:** A one-story, single room, 14 X 14 foot cabin of wood frame construction, built according to Pacific Northwest Region standard plan L-4, 1932 revision (photos 28-35). Distinctive attributes of this plan include symmetrical structure, pre-cut framing and finish members limited to 8-foot lengths, and uniform finish materials and millwork. These characteristics facilitated transport by pack strings and construction by crews of variable talent. Also distinctive are a pyramidal roof, and fenestration of two-over-two fixed and operating sash (USDA Forest Service, Mt. Baker-Snoqualmie N. F. 1986: Item 7).

   Suntop was constructed on an uncoursed masonry foundation of native andesite. Construction followed the standard plans, with the interior walls finished with 1 X 4 inch tongue-and-groove boards. Original furnishings included a bed, table and firefinder stand as specified in the plan. No catwalk (photo 35) was built, as the lookout cabin was placed on a relatively broad ridge rather than a peak or tower.

Construction of the storage shed apparently did not follow a standard plan. It is an 8 X 8 foot wood-frame building with a gable roof (photos 4, 10). The frame is 2 X 4 inch lumber, 24 inches on center. The walls are 1 X 5 inch shiplap. The cedar shingle roof is laid on 1 X 6 inch slats. Entry is via a flush door, and the interior has a 1 X 6 inch wood floor. A 1934 photograph (photo 25) shows what may be a log outhouse under construction west of the shed.

6. **Alterations and additions:** No trace remains of the outhouse shown in the 1934 photograph. Suntop was originally accessed by a six-mile-long trail from the vicinity of the confluence of the White River and Silver Creek. Between 1950 and 1965, a road was built to the summit and a parking lot for about a dozen cars was constructed northeast of the lookout (photo 20). A pair of vault toilets and several picnic tables were also placed north of the lookout during that time.

About 1966, the exterior shiplap siding of the lookout was covered with cedar board-and-batten siding (photos 1, 2, 5, 7-9; Guidetti to Moss, Oct. 3 1986). Boards were 1 X 12 inches and battens 1 X 2 inches. At the same time, a concrete slab was poured at the entry, and a slab poured south of the lookout for a metal radio tower. The radio tower was placed in the approximate location of the flagpole shown in the 1934 photograph series (photo 27).

In 1978, the original shutters were removed and replaced with X-braced plywood panels (photo 2; Guidetti to Moss, October 3, 1986). The ceiling was covered with 4 X 8 foot plywood panels (photos 12, 13).

By the winter of 1987-1988, the shutters on the south side of the building had been removed and two of the windows broken out (photos 1, 5). The two lower lights in the entry had also been broken and covered with plywood. The foundation was failing. The radio tower had been removed, and both the lookout and shed had been painted dark brown. The original chimney had been replaced or shortened (photos 5, 23).

The foundation failure and damage to the windows led to extensive repairs in 1988 and 1989. The wooden members were labelled to identify their original location. Then, the structure was disassembled and taken off the foundation. The original foundation was demolished, and replaced with a poured concrete foundation having a

veneer of uncoursed native rock. Deteriorated wooden members were replaced in kind, and the building re-erected on the new foundation. The board-and-batten siding was not replaced, thereby exposing the original v-groove siding (photos 3, 6). The shutters were replaced with shutters constructed according to the original plan. The building exterior was painted gray to match the original paint revealed by the repair work.

B. Historical Context

Suntop Lookout is located on the andesitic ridgetop of Suntop Mountain, 15 miles northeast of Mt. Rainier. The origin of the mountain's name is unknown. The lookout is at 5270 feet elevation and has a view of forest land in the White River and Huckleberry Creek valleys (photos 16, 21, 22, 25-27).

Concern for the protection of forest lands prompted the establishment of a system of Forest Reserves from the public domain in the late nineteenth century. By 1905,they had evolved into the system of National Forests today administered by the Department of Agriculture (Steen 1976: 3-78).

From the outset, fire prevention and control was seen as essential to protection of the Nation's forests. In addition to the actual loss of timber consumed by fire, the threat of fire caused forest owners to harvest their holdings at a rapid rate (Pyne 1982: 190-198; Steen 1976: 173-174). This led to depletion of the resource and an oversupply of timber that was economically unhealthy.

Detection is critical to fire control, as early detection generally reduces the control forces required and the resource loss. Initially, detection efforts consisted of a system of fire guards on foot, horse or automobile patrol (Zimmerman 1969: 1-5). They proved inefficient, as visibility from existing trails was limited. The guards came to be referred to as "pothole patrolmen", because their routes kept them at low elevation (McCullough 1970: 75).

Detection programs were expanded following the disastrous fire season of 1910. The Pacific Northwest Region began to expand its network of elevated lookout stations. Typically, the fire patrolman camped in a tent below a high peak, and hiked daily to a lookout station on the peak. The station consisted of a tree

platform or pile of rocks furnished with a compass or crude firefinder and a means of communication, commonly a telephone line or heliograph (Mt. Baker-Snoqualmie N. F. 1986: item 8).

This system also proved unsatisfactory, primarily because the location of the tent camps and lookout stations left the occupants exposed to the full force of the elements. This led to the development of a prototype lookout house, placed on Mt. Hood in 1915. The prototype evolved into the Plan D-6 lookout (for District 6, now known as Region 6). The plan featured windows encircling the upper walls, a hipped roof, a glassed-in second story observatory (cupola) and shutters (Mt. Baker-Snoqualmie N. F. 1986: item 8).

Some experimentation with design followed. In 1928, Standard Plan L-2 was developed. It resembled the D-6, and was designed to accommodate a limited budget and construction in remote settings. Components were pre-cut for delivery aboard eight mules, and labelled for construction using to a set of simple plans and tools. The goal was to have the fire patrolman match the pre-cut and numbered pieces and build the shelter himself. Few of these lookouts were built, and they did not hold up well (Mt. Baker-Snoqualmie N. F. 1986: item 8).

The design rapidly evolved to the L-4 plan, also designed for shipment aboard a pack string but intended for construction by an experienced carpenter and crew. The L-4 plan was revised twice between 1930 and 1936, and was used until 1953 (Mt. Baker-Snoqualmie N. F. 1986: item 8). Suntop was constructed according to the plan as revised in 1932.

Development of the L-4 plan coincided with a Pacific Northwest Region initiative to replace the "pothole patrolmen" (McCullough 1970: 76), following another disastrous fire season in 1927. It also coincided with the initiation (in 1932) of a ten-year national plan for forest improvements, and the establishment of the Civilian Conservation Corps in 1933 (Mt. Baker-Snoqualmie N. F. 1986: item 8). Between 1933 and 1942, the C.C.C. constructed hundreds of lookouts, thousands of miles of telephone line, foot trails and roads, greatly improving the forest fire detection and suppression system.

During World War II, a number of the lookouts in Washington, Oregon and California were incorporated into the U. S. Army Aircraft Warning Service. The lookouts were staffed around the clock and 365 days a year to give early warning of enemy attack. Suntop was part of the system in 1942 and 1943 (McCullough 1970: 102-105). No significant incidents are associated with this use, but the Forest Service was challenged by the necessity to provide reliable telephone service and supplies to a remote lookout in the dead of winter.

Following the war, many lookouts were abandoned. The increasing use of aircraft patrols made an extensive lookout network unnecessary (Zimmerman 1969: 8-10). During periods of low fire danger the time tolerance for detection is high, and lookouts are expensive in relation to the likelihood of detecting a fire. A few patrol flights could be readily substituted. Those lookouts which remain are, in many cases, only occupied during periods of extreme fire danger. Suntop is now primarily a recreation site, used for picnicking and interpretation of Forest Service fire control and land management practices.

Suntop Lookout was constructed in the 1930's period of rapid expansion of the lookout system, and is therefore associated with that important event in the history of the Pacific Northwest Region and the Forest Service. Through its use by the U.S. Army Aircraft Warning Service, it is also associated with the American response to the surprise attack on Pearl Harbor.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. **Architectural character:** Suntop Lookout was constructed according to the 1932 revision of Standard Plan L-4 (photos 28-35), and therefore embodies the distinctive elements of that plan. Specifically, it is a one-story, single-room, 14 X 14 foot cabin. The wood components were pre-cut to facilitate packing by horse or mule string. It possesses the pyramidal roof of the 1932 revision, which replaced the gable roof of the 1930 L-4. Also typical are exterior walls with a continuous band of windows forming the upper two-thirds, and permitting a 360-degree view of the surrounding forest. As specified in the 1932 revision, these are two-over-two fixed and pivoting sash, a replacement of the nine-light windows in the 1930 plan.

Other typical features originally included shutters of 1 X 6 inch shiplap reinforced with double z-bracing. When closed, these shutters provided structural support for the relatively weak frame formed by the window mullions. When open, the shutters provided shade and reduced glare. Although the original shutters were removed ca. 1978, a 1988/89 restoration provided shutters constructed according to the original plan.

The interior of Suntop also shows construction details typical of L-4 lookouts. These include a firefinder stand, stool, table, and a bunk (photos 12, 13).

2. **Condition of fabric:** By the winter of 1987-88, Suntop was in poor condition. In about 1966, the original shiplap siding was covered by cedar board-and-batten siding for cosmetic reasons (photos 1, 2, 5, 7-9). The original shutters were replaced ca. 1978 with X-braced plywood (photo 2). The foundation had failed, and the north and south walls were bowed. Two windows, on the western end of the south wall, had been broken out by vandals (photos 1, 5).

These deficiencies led to a major rehabilitation project in 1988 and 1989. The structural components of the buildings were numbered, disassembled and removed from the foundation. The foundation was demolished, and replaced with a concrete foundation with a native rock veneer. Building components were examined, and where deteriorated were replaced in-kind with new components. The components were then re-assembled according to their original position in the structure. The board-and-batten siding was not replaced, exposing the original shiplap (photos 3, 6). New shutters were constructed according to original plans. A new shingle roof and metal chimney were installed (photo 6). Exclusive of the roof and shutters, approximately 70% of the original wood components remain.

B. **Description of Exterior:**

1. **Overall dimensions:** The Lookout is a one-story, 14-foot square with its principal elevation, defined by the presence of the entry, on the south (photos 1, 5). Construction details followed the standard plan (photos 28-35).

2. **Foundation:** The Lookout originally had a foundation of uncoursed native andesite rock. Little effort was made to create a level surface. This foundation had failed and was repaired by re-pointing cracks at the corners. In 1988, a new foundation of concrete was poured, and faced with a veneer of uncoursed native andesite that reflects the appearance of the original foundation.

3. **Walls:** Exterior walls follow the standard plan (photo 29). The upper two-thirds are composed of windows and mullions. The two-over-two windows are a principal feature distinguishing the 1932 revision from the original L-4 plan (photos 5, 7-9).

4. **Structural systems, framing:** Framing members are sized and located according to the standard plan. None are over 8 feet long. The short members facilitated transport of sills and joists by pack string.

5. **Porches, stoops, balconies, bulkheads:** The entry is accessed by four steps, formed of 1 X 6 inch planks on the risers (photo 11). A concrete slab is located at the foot of the steps. It was poured ca. 1966.

6. **Chimneys:** R-6 Standard Safety Flue, as specified in the standard plan (photo 34). The chimney is located in the southeast quadrant of the roof.

7. **Openings:**

   a. **Doorways and doors:** A single entry is located at the east corner of the south elevation (photo 5). Design details follow the standard plan. The lower pair of lights has been broken out and covered with plywood. The door has simple butt hinges and a round doorknob.

   b. **Windows and shutters:** Window details follow the standard plan. There are five windows each in the north, east and west wall, and four in the south (photos 5, 7-9, 29). The position of the fifth is occupied by the door. Window supports specified in the standard plan (photo 31) were missing in 1988, presumably having been removed when the plywood ceiling panels were installed.

In 1988, shutters consisted of plywood panels braced with 2 X 4 inch boards in an X-pattern (photo 2). These were not original. In 1989, the shutters were replaced with a set constructed according to the standard plan (photos 29, 32). There are two shutters per elevation, hinged at the top with three T-hinges. The shutters are propped open by 2 X 2 inch rods attached by eyebolts at the outer edges and below the windows. This arrangement is characteristic of lookouts constructed according to the 1930 and 1932 versions of the standard plan, but was modified in 1936.

8. **Roof:**

a. **Shape, covering:** Pyramidal roof with cedar shingles, constructed according to the standard plan (photo 30). The pyramidal shape distinguishes the 1932 revision of the L-4 plan from the 1930 original, which called for a gable roof.

b. **Cornice, eaves:** Open cornice with 4-inch eave overhang.

c. **Dormers, cupolas, towers:** None.

C. Description of interior:

1. **Floor plan:** Open, square room as shown on standard plans (photos 12, 13, 28).

2. **Stairways:** None.

3. **Flooring:** Constructed following the standard plan (photo 28). Originally stained dark green, the floor was most recently painted a silver-gray to match the exterior of the building.

4. **Wall and ceiling finish:** The walls below the windows are finished with 1 X 4 inch tongue-and-groove flooring, now painted a pale pastel green. The ceiling consists of plywood panels over the original 1 X 4 inch tongue-and-groove boards (photos 12, 13). It is painted to match the walls.

5. **Openings:**

   a. **Doorways and doors:** 2-foot-square attic trap door as specified in standard plan, in the northeast quadrant (photos 13, 30).

   b. **Windows:** There are no interior windows.

6. **Decorative features and trim:** None.

7. **Hardware:** Standard plans called for window supports consisting of 2 X 2 inch wooden rods suspended from T-hinges (photo 31). These caught the upper edge of the windows as they were pivoted inward. The supports were not present in 1988.

8. **Mechanical equipment:**

   a. **Heating, air conditioning, ventilation:** Ventilation was provided by opening the windows. Heat is provided by a small wood stove just west of the entry. This stove replaced the original ca. 1978.

   b. **Lighting:** None, other than lanterns supplied by the occupants and natural light from the windows.

   c. **Plumbing:** None. There may have been a pit toilet present, as a 1934 photograph (photo 25) shows one under construction just west of the shed. No trace is visible today. Two vault toilets are located northeast of the parking lot. They were constructed ca. 1978.

   d. **Other equipment:** None.

9. **Original furnishings:** Suntop Lookout was originally equipped with three standard furniture items: a built-in firefinder stand, a rope bed and a table (photos 12, 13, 33, 34).

   The firefinder stand is centrally located in the interior, and supports the Osborne firefinder (photos 12, 13). The firefinder has been removed. The firefinder is an alidade-like sight used to obtain azimuths and vertical angles to the base of smoke columns sighted from the lookout. These were plotted on a 1-inch-to-1-mile map in the firefinder base, telephoned to the fire dispatch office and triangulated with other smoke reports to plot the location of the

fire. The stand follows the standard plan (photo 33), with the addition of vertical dividers to the top shelf, and the removal of the doors (photo 13).

The rope bed and table follow the standard plan (photos 12, 13, 34), but are not built-in. Built-in shelves have been added to the northeast and southwest corners. These are not part of the standard plan.

D. Site:

1. **General setting:** Suntop Lookout is located at an elevation of 5270 feet on the summit of Suntop Mountain. The surrounding ridgetop is vegetated with alpine wildflowers and grasses, and the slopes are covered with a stand of subalpine fir that has developed since 1934. At some point prior to that, the ridgetop was burned (photos 25-27).

   Suntop was originally accessed by a six-mile-long trail from the White River. It is now approached by a single-lane gravel road with turnouts, constructed following World War II. The road departs from Washington Highway 410 approximately 24 miles south of Enumclaw, WA.

   Lookout locations were selected to maximize the seen area, and especially the area not seen from other lookouts. Suntop maximized views of the east slope of Huckleberry Ridge and the west slope of Dalles Ridge (photos 16, 21, 22, 26, 27). By 1940, Suntop was intervisible with lookouts at Bearhead Peak, Mount Fremont, Norse Peak, Mutton Mountain, Noble Knob, Huckleberry Mountain and Kelly Butte.

2. **Historic landscape design:** The site layout was not formally designed. The storage shed northeast of the lookout is downslope, on the closest level ground that would not obstruct the view from the lookout (photo 25). This suggests that site layout responded in an informal manner to topography, convenience and the need for an unobstructed view.

   The same considerations seem to have dictated the location of the parking lot and vault toilet when the access road was constructed, as they are also situated on the flat north of the lookout. By this time, however, the dominant use of the site was for picnicking and huckleberry collecting.

3. **Outbuildings:** An 8 X 8 foot storage shed is located northeast of the lookout (photos 1, 4, 10). The shed is wood frame with a gable roof. The frame is 2 X 4 inch lumber, 24 inches on center. The walls are 1 X 5 inch shiplap. The cedar shingle roof is laid on 1 X 6 inch slats. Entry is via a flush door, and the interior has a 1 X 6 wood floor. The shed lacks a foundation and is racked. A log building, with a partially-completed roof, is shown in a 1934 photograph from the lookout (photo 25). It is located just to the west of the storage shed. It is about the size of an outhouse. There is no trace of this structure remaining at the site.

PART III. SOURCES OF INFORMATION

A. **Architectural drawings:** Original design by K. E. Banks, USDA Forest Service, Region Six. Labelled "Building Plans R-6, Plan L-4, R-6 1930 L.O. House, 14' X 14', 1932 Revision". Suntop Lookout was built without the catwalk (Sheet 8 of 8).

Copies of lookout plans are no longer maintained by the USDA Forest Service. Plans included with this report were obtained from the collection of Ronald R. Johnson, P.O. Box 803, Oakridge, OR 97463.

B. **Historic views:** South front (photo 23). "Suntop L.O. July 18, 1940. Joe [?] L.O., [?] [?] Conover. Nevan McCullough photo." Black-and-white print. USDA Forest Service, Mt. Baker-Snoqualmie N.F., Cultural Resource files, Seattle, WA.

Seen area panoramas (photos 25-27). Photographer unknown. Black-and-white negatives. USDA Forest Service, Mt. Baker-Snoqualmie N.F., Fire Management files, Seattle, WA. For a description of how and why these panoramas were taken, see Arnst (1985).

C. **Interviews:** None.

D. **Bibliography:**

1. **Primary and unpublished sources:**

Guidetti, Al. Memorandum to Madonna Moss, October 3, 1986. Mt. Baker-Snoqualmie N. F., Seattle.

McCullough, R. Nevan. Interpretive Study of the White River Drainage. Mt. Baker-Snoqualmie N. F., Seattle, 1970.

USDA Forest Service, Mt. Baker-Snoqualmie National Forest, Supervisor's Office, Seattle. Lands files.

USDA Forest Service, Mt. Baker-Snoqualmie National Forest, Supervisor's Office, Seattle. Recreation Staff, cultural resource site folder CR06-05-07-27.

2. **Secondary and published sources:**

Arnst, Albert. We Climbed the Highest Mountains. Portland, Fernhopper Press, 1985.

Pyne, Stephen J. Fire in America: A Cultural History of Wildland and Rural Fire. Princeton, Princeton University Press, 1982.

Steen, Harold K. The U.S. Forest Service: A History. Seattle, University of Washington, 1976.

USDA Forest Service, Mt. Baker-Snoqualmie National Forest. USDA Forest Service Fire Lookouts on the Mt. Baker-Snoqualmie National Forest. Seattle, 1986.

Zimmerman, Eliot W. Forest Fire Detection. Government Printing Office, Washington, D.C., 1969.

E. **Likely sources not yet investigated:** USDA National Agriculture Library, Beltsville, MD (historic views)

F. **Supplemental material:** None.

PART IV. PROJECT INFORMATION

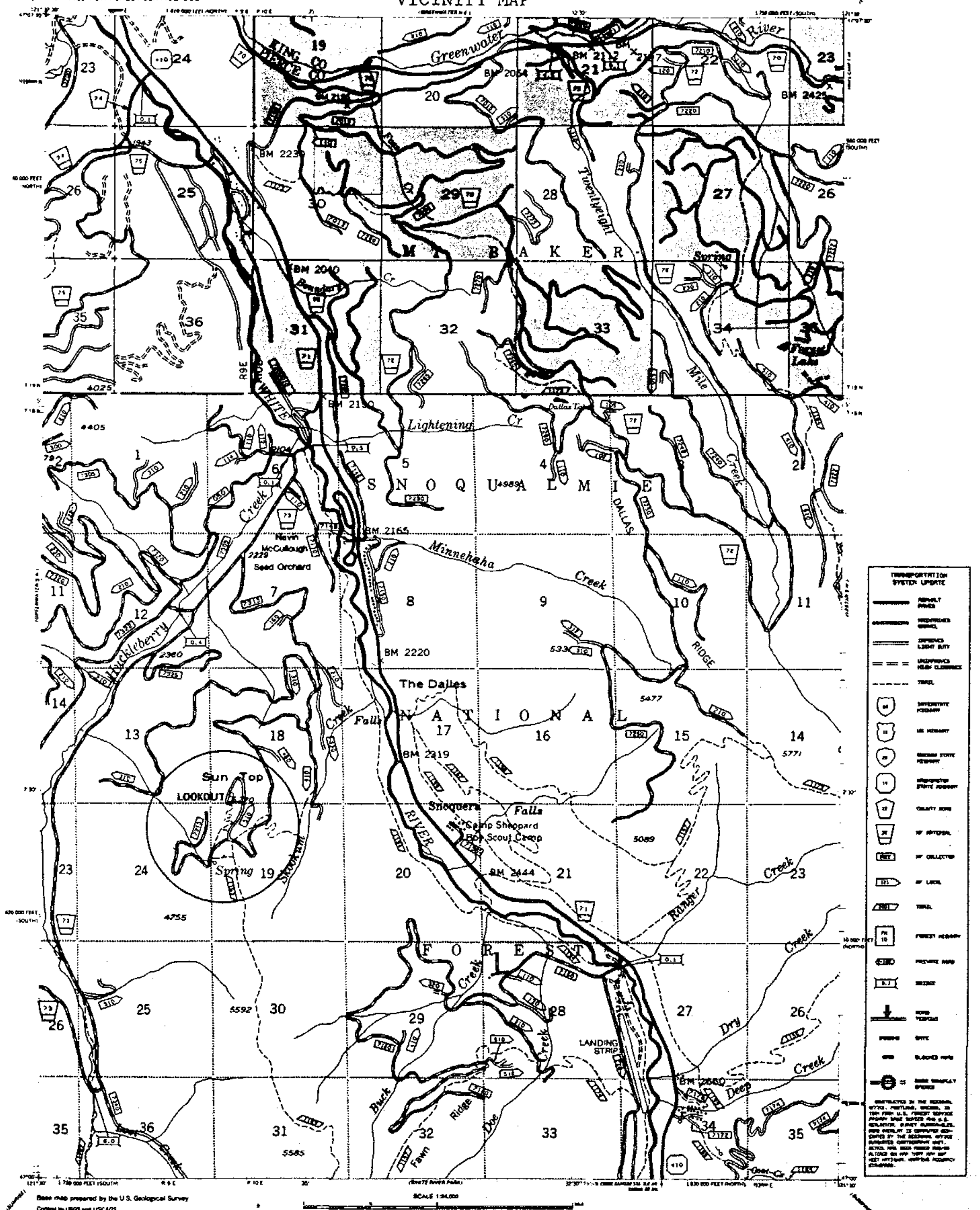
This documentation was prepared to mitigate the effects of a restoration project. The Washington Office of Archaeology and Historic Preservation requested that the Lookout be documented to HABS standards prior to restoration. The Advisory Council on Historic Preservation concurred that documentation, and conformance to The Secretary of the Interior's Standards for Historic Preservation Projects, would result in "no adverse effect" on the lookout (concurrence stamp of July 7, 1988 on 2360 letter from James A. McDonald to Robert Fink, dated June 29, 1988). The USDA Forest Service, Mt. Baker-Snoqualmie National Forest, prepared this documentation, completed February 21, 1990.

Prepared by: James A. McDonald
Title: Archeologist
Affiliation: Mt. Baker-Snoqualmie N. F.
Date: February 21, 1990

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
MODIFIED FOR FOREST SERVICE USE

GREENWATER S.E. QUADRANGLE
WASHINGTON - KING AND PIERCE CO
7.5 MINUTE SERIES

VICINITY MAP



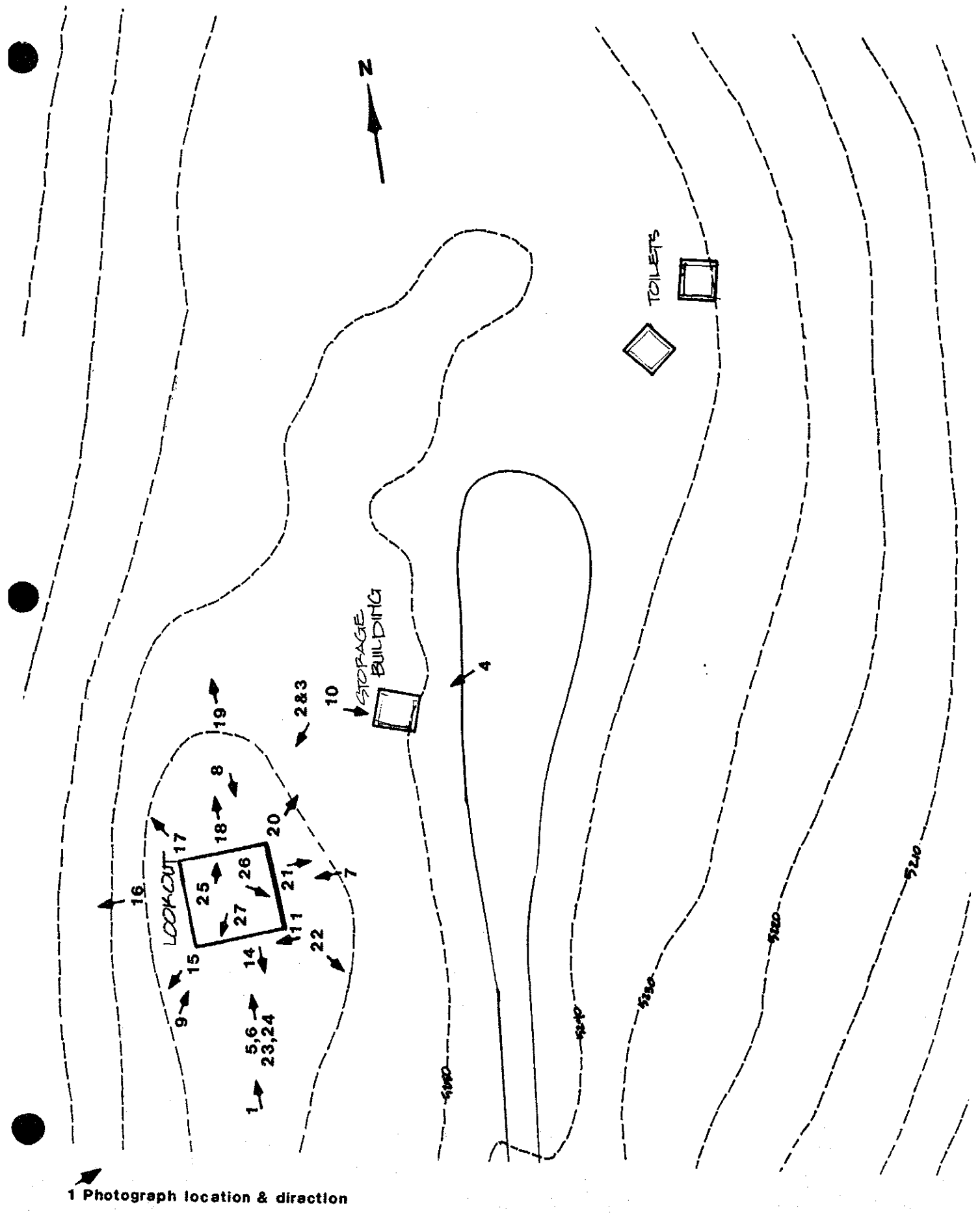
Base map prepared by the U.S. Geological Survey

INTERMEDIATE EDITION

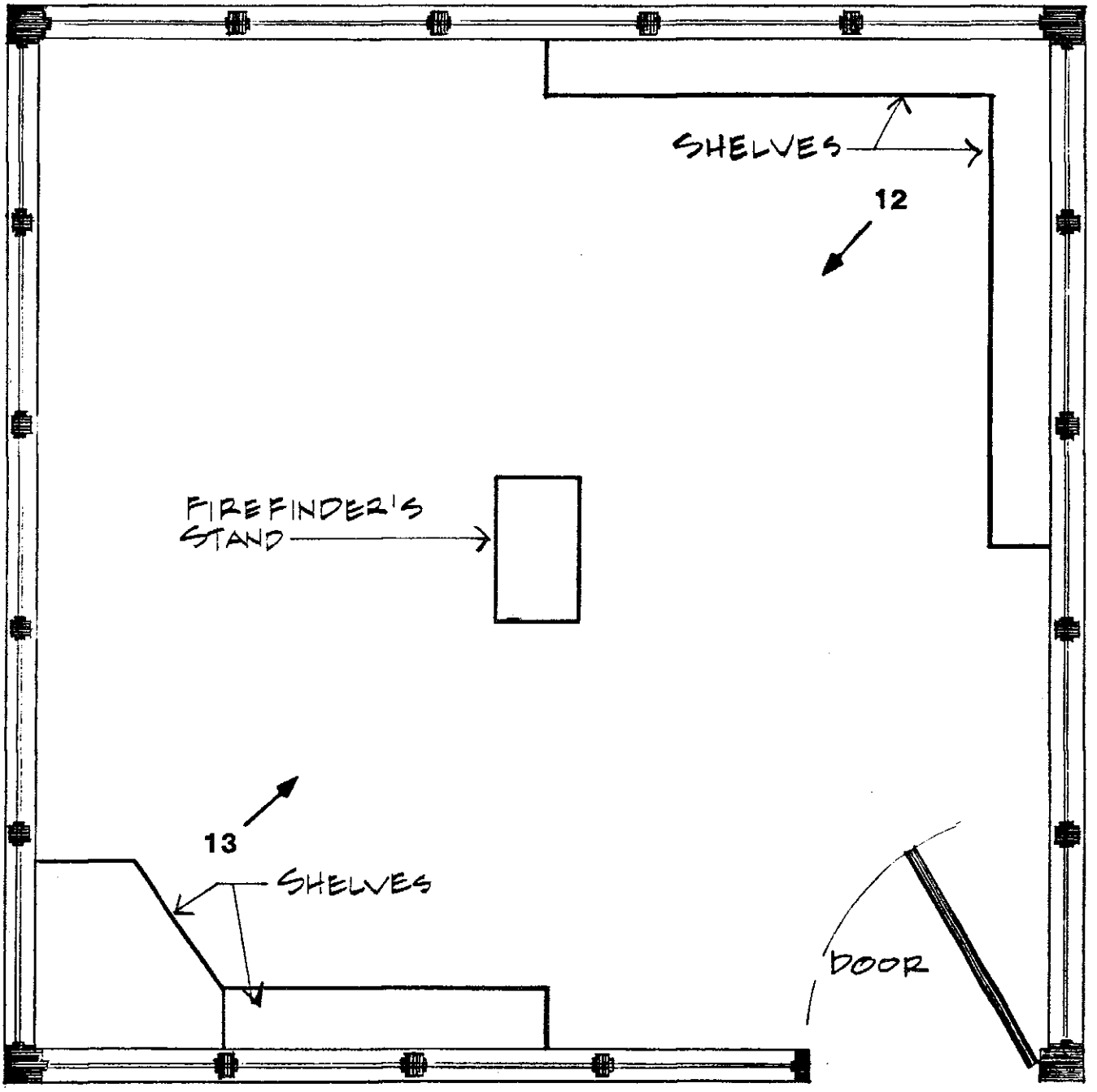
MAP REVISED 1985-MBS

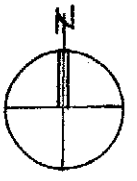
GREENWATER S.E., WASH.
1960

SUNTOP LOOKOUT
HABS No. WA-190 (Page 15)
Site Sketch



1 Photograph location & direction





12 Photograph location & direction